

INNOVATIONS FOR THE MICRO-WORLD

ALL ABOUT THE IMAGE QUALITY

SANXO-Scope HD digital microscope Technical Description & Quotation

Designed and manufactured by
SANXO-Systems Ltd.
www.sanxo.eu

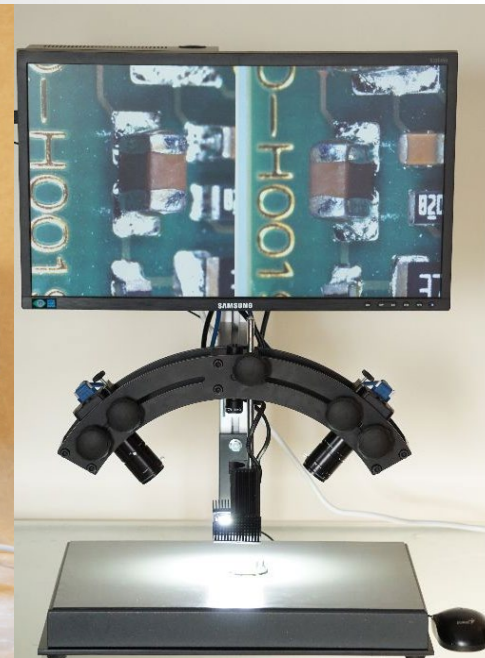
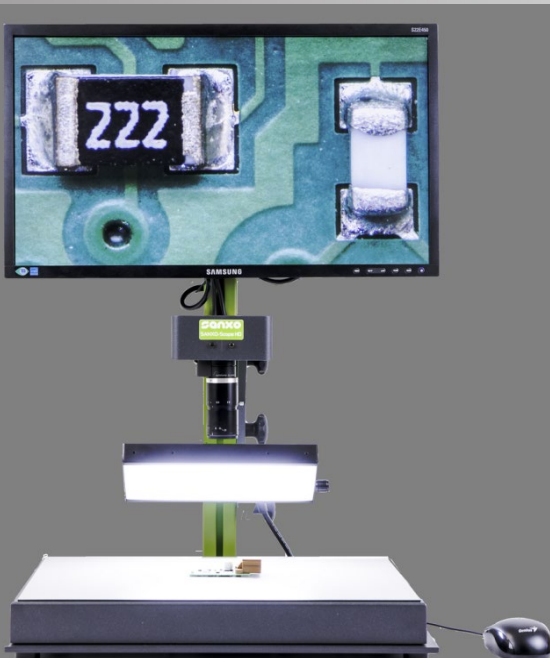
2022

NEW:

- New software functions
- Windows version
- 2 YEARS WARRANTY

SANXO-SCOPE HD
DIGITAL VIDEO MICROSCOPE
INSPECTION AND MEASURING
STATION

ID 2022
FROM 01.03.2022



- Quality
- Robustness
- Advanced features



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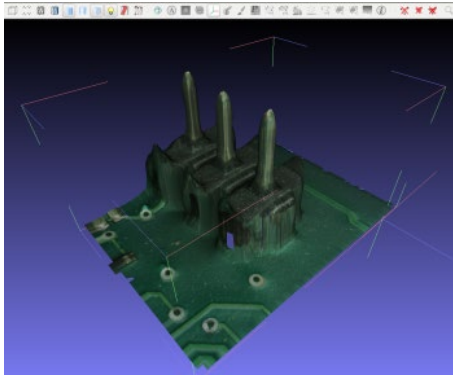
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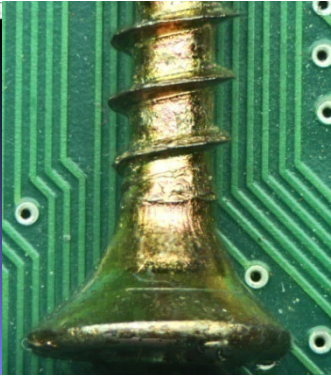
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1. GENERAL

The digital microscope product brought into the market by SANXO offers a complete setup for magnified high framerate live image inspection and 3D imaging technology.



3D imaging

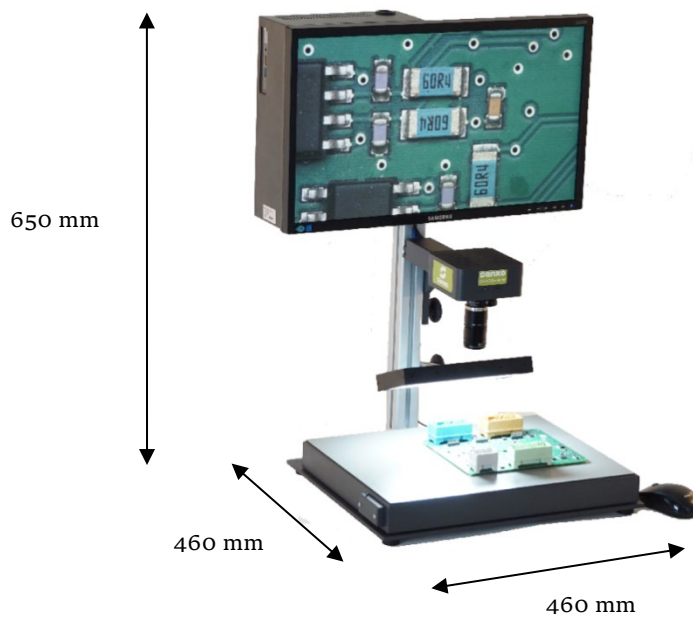


Hyperfocus image



High magnification

2. DIMENSIONS



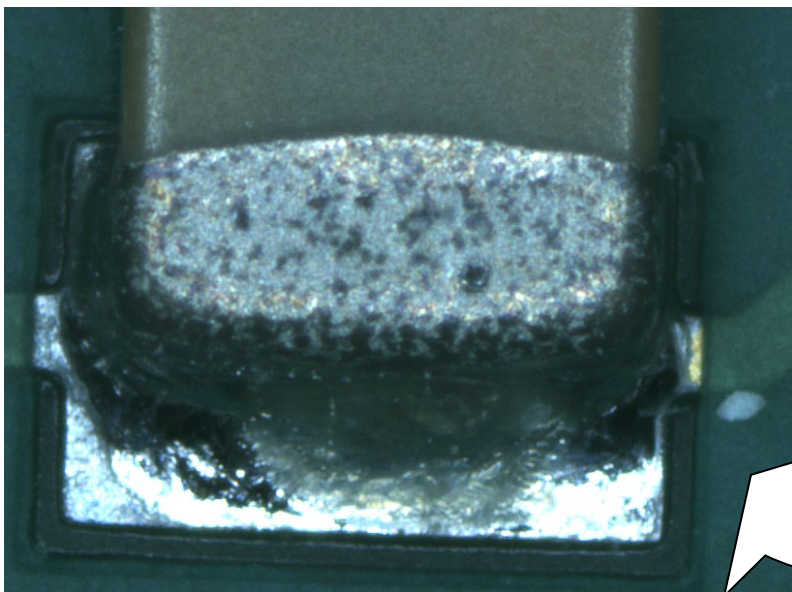
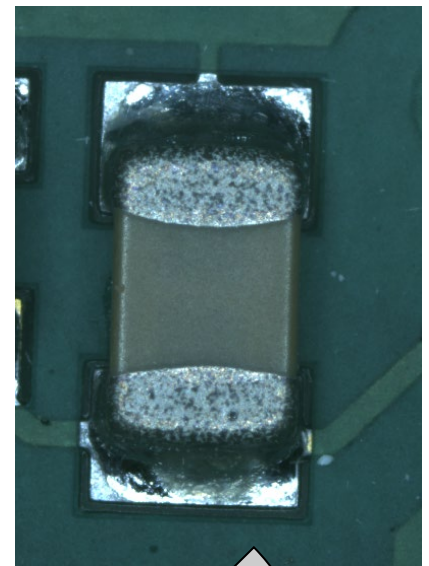
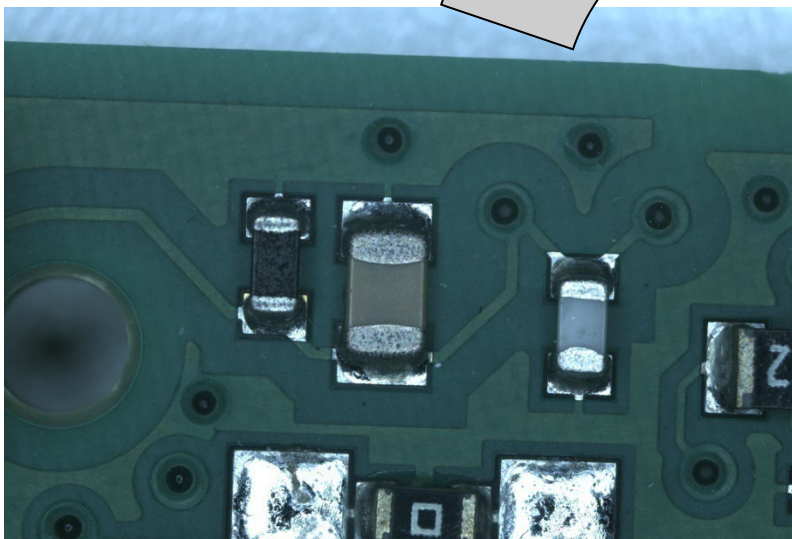
3. MATERIALS

The 6mm thick Base Plate is painted metal, the pole is standard 40x40 ITEM aluminum profile, the camera holder and the monitor case are painted aluminum and the LCD and mini-PC holder is painted aluminum. The base plate is covered with a 2mm ESD rubber mat. All parts of the system are CE complied products.

4. ALL ABOUT THE IMAGE QUALITY

The new microscope model U10 is equipped with the new 1", 20.5 Mpix SONY sensor, which gives outstandingly good true colors and it has nearly 80% quantum efficiency.

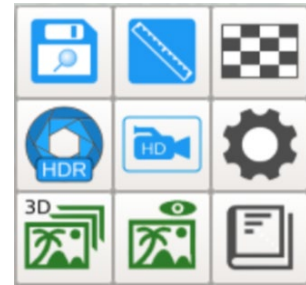
SONY 1" - 20.5 MPix CRYSTAL CLEAR IMAGES



Using the special digital zoom function with the mouse wheel the zoomed image is equally very sharp and clear on the full HD resolution monitor thank for the very good 20.5Mpix USB3 camera from IDS-Imaging GmbH and the advanced software features.

5. FEATURES

The stand has adjustable holders for both camera and monitor that enable influencing imaging attributes, such as the camera distance, and operating ergonomics. The monitor can be tilted to get the best view angle for the user. Choice of lenses dictates many properties of the setup as the specifications such as focal length and aperture range ultimately define angle of view, magnification and depth of field. The application offers basic functionality such as true digital zoom (with no quality loss) and image panning, real-time image enhancement and image saving (local image folder/remote USB memory stick device).



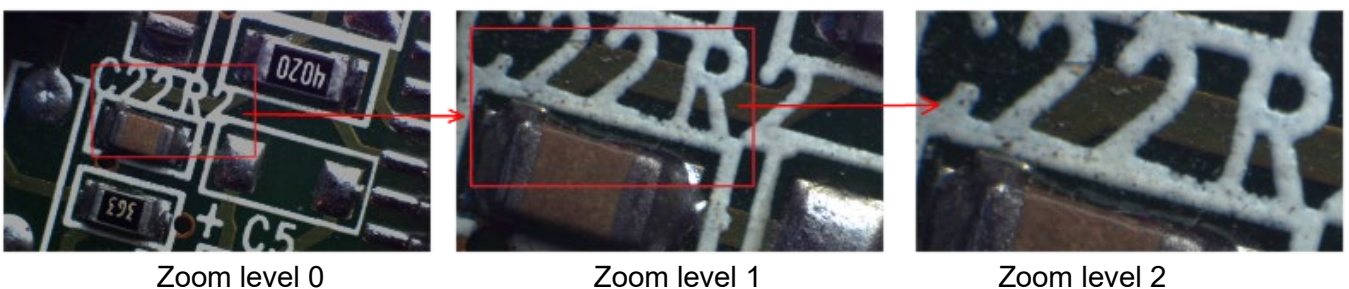
Right click menu

There is an optional autofocus function that uses the electronically tunable Swiss made lenses. The focal length of the electrical lenses is tuned within milliseconds by applying a control. The autofocus lens can be paired with certain fix focal length lenses (it does not work with all kind of lenses). In some setup the autofocus lens is used in between the camera and the fix focal lens and in other setup it can be used as a close-up lens.

Fast focusing in a second: New approach of focusing makes much faster focusing by applying new focusing method. You either using continuous autofocus or mouse controlled autofocus. In continuous autofocus mode the central area of the display will be in focus. Using the mouse controlled autofocus the double-click triggers the autofocus on the area where the mouse pointer is.

Fast and efficient ZOOM: The camera stand allows the user to use different working distance very easily by moving the camera closer or further to the objects. If the object distance is fixed then the user still can use the real-digital zoom by rolling the mouse wheel. Using the digital zoom the image is equally very sharp and clear on the full HD resolution LCD thank for the very good 20.5 and 18Mpixel USB3 camera from IDS-Imaging GmbH.

Use the mouse wheel to switch between the zooming profiles. The zoomed area will always be centered to the current position of the mouse pointer. This means the user can zoom any part of the viewed area unlike the motorized optical zoom, which zoom only in the middle of the image. As an extra an overlay graphic on the top right corner provides information on the current size and location of the zoom state.



Hyperfocus Imaging: The tunable lens brings add on features for the user. Using the so called image stacking or focus stacking technique and the HDR function(High Dynamic Range), a big depth of field HDR image can be generated using the SANXO-Scope HD. Also a 3D mesh surface is generated which gives better understanding and a clear visualization of the object to be checked. The 3D mesh image can be rotated easily by the used using the mouse.



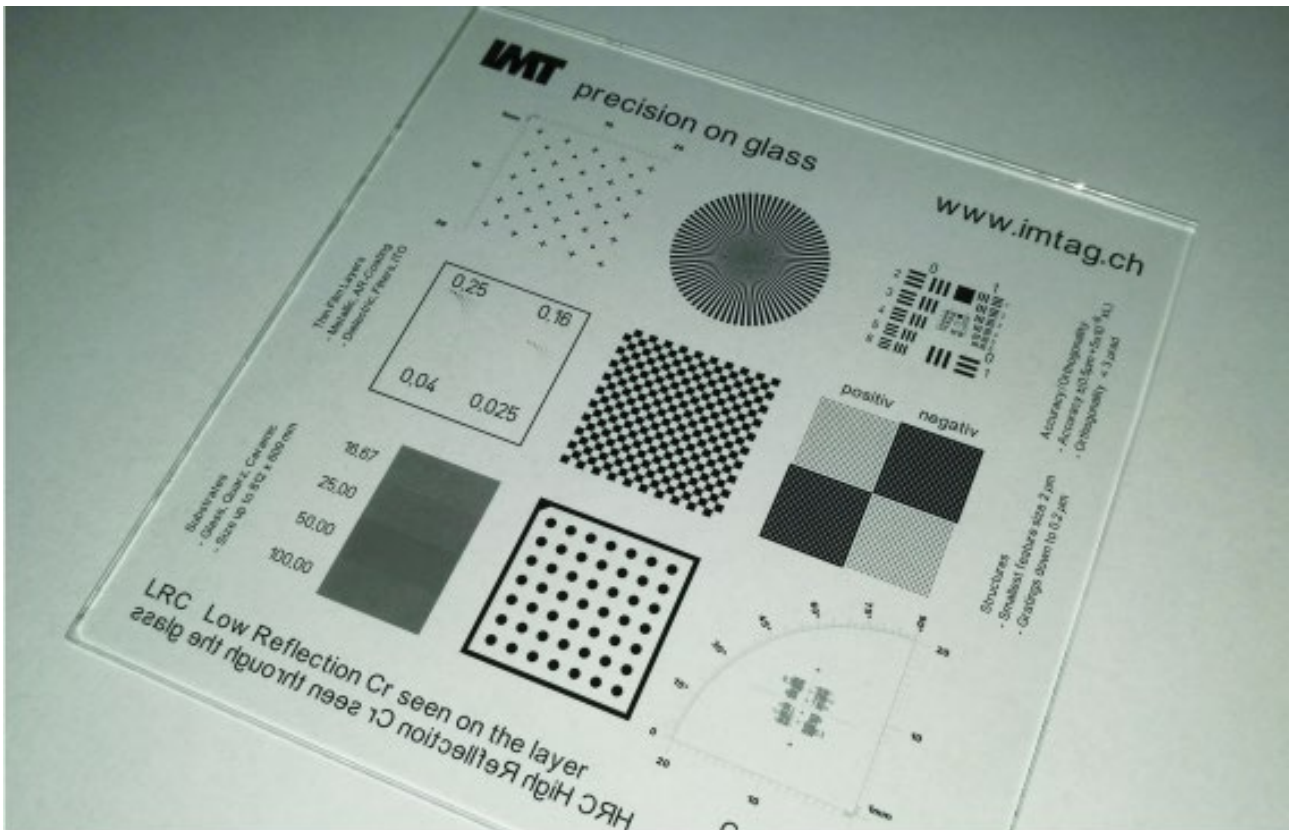
Hyperfocus Image

Single Image (background is in focus)

3D mesh surface

ONE-CLICK CALIBRATION

The SANXO-Scope HD can easily be calibrated using a calibration card or precise calibration board. The calibration only takes a few seconds and after that the scope can be used to measure distances accurately in real-world units(mm).



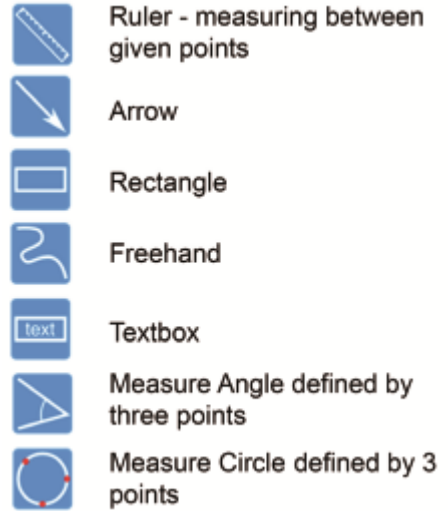
You can have your own calibration card. The setup supports to add new calibration pattern.

OVERLAY GRAPHICS

The SANXO-Scope HD provides overlay graphics to highlight part for documentation and measurements. Beside the measuring tool the user can use an Arrow, Rectangle, Freehand and Text box. The user can measure circles, distances and angles. The positions of the overlay graphics will not change if user zoom in or zoom out. This makes an essential difference between the optical zoom and the real-digital zoom.

VIDEO RECORDING

The SANXO-Scope HD provides video recording.



Right click menu

MAGNIFICATION

The camera stand allows the user to use different working distance very easily by moving the camera closer or further. If the object distance is fixed then the user still can use the real-digital zoom by rolling the mouse wheel. Using the digital zoom the image is equally very sharp and clear on the full HD resolution LCD thank for the very good 20.5 and 18Mpixel cameras.

Magnification of the SANXO-Scope HD U4 and SANXO-Scope HD U4 Express

TAMRON megapixel 50mm focal lens and 18Mpix USB3 camera (excluding liquid lens)

Nr.	Object distance (Working Distance)	Magnification (roll the mouse wheel)			Accessory
		D1	D2	D3	
1	530 mm	7.6x	19.4x	29 x	none
2	290 mm	14.35x	36.7x	55 x	none
3	192 mm	22.5x	57.5x	86.3 x	none
4	95 mm	52.7x	134.8x	202.2x	20mm extension ring

TAMRON megapixel 25mm focal lens and 18Mpix USB3 camera

Nr.	Object distance (Working Distance)	Magnification (roll the mouse wheel)			Accessory
		D1	D2	D3	
1	547 mm	3,2x	8.2 x	12,3x	none
3	285 mm	6,6x	16,9x	25,3x	none
4	243 mm	7,6x	19.5x	29,1x	none
6	207 mm	9 x	23 x	34.5x	none
8	120 mm	15x	38,4x	57,5x	1 mm extension ring

Liquid lens optical setups

Magnification of the SANXO-Scope HD U4 + autofocus lens

Optical setup1: (back lens configuration)

| camera | + | Optotune EL10-30 liquid lens | + | TAMRON megapixel 50mm |

Working range (from top of the close up lens): 178mm – 94mm

Focus range: 25mm – 8mm

Z axis resolution: 0.02mm – 0.007mm

Magnification: 27x, 69x, 103x – 52 x , 135 x, 202x



Magnification of the SANXO-Scope HD U4 + autofocus lens

Optical setup2: (front lens configuration)

| camera | + | TAMRON megapixel 25mm | + | Optotune EL10-30 liquid lens |

Working range (from top of the close up lens): 600mm – closest 65 mm

Focus range: 490mm – 86 mm (66-152mm)

Z axis resolution: 0.4mm – 0.07mm

Magnification: 2.8x, 7.2x, 11x – 10 x , 26 x, 39x



*** Further magnification values can be found on webpage:

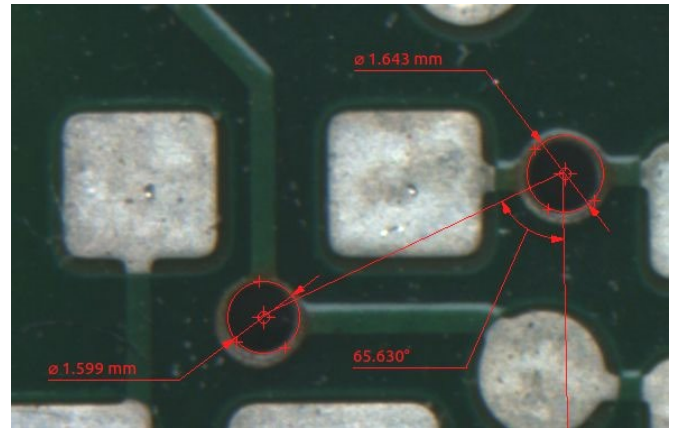
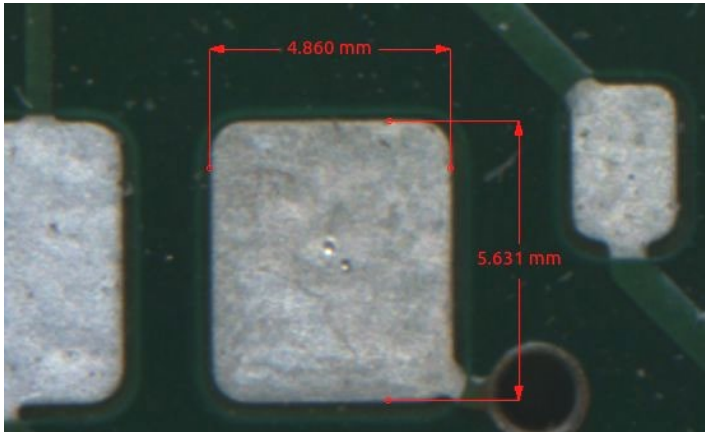
<https://www.sanxo.eu/content/scope/Magnification.pdf>

HDR Imaging

The SANXO-Scope HD offers the High Dynamic Range Imaging function. This function highlights the details in the darker part of the image (typically if the details are in the shade) or reduce the shiny saturated bright part of the image. There are two HDR functions available. One of the functions is optimized for speed and the other is optimized for image enhancement.

6. MEASUREMENTS

The user can measure distances, angles and diameters prompt using the live image or after saving the image a dedicated measuring software supports very complex measuring tasks.



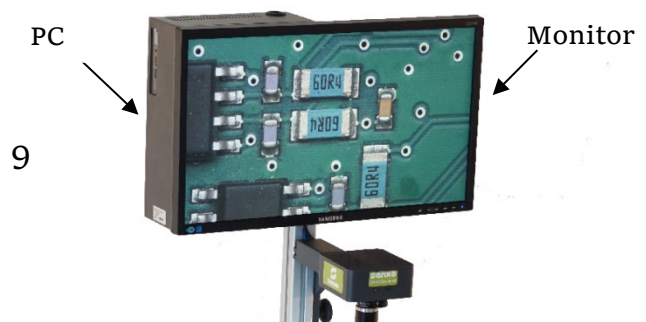
7. SANXO-SCOPE HD STANDARD SETUPS

All setups come with a heavy-duty platform and an adjustable stand, a SAMSUNG Full HD resolution monitor, a mini-PC with mouse, Megapixel TAMRON lenses and the SAN 20W LED illumination. The Standard Setup which supports most of the desired use has 50mm megapixel fixed focal length TAMRON lens and a flat diffuse illumination. Additional accessories such as tunable lens, tilting table, XY table or extra lightning can also be configured into the package.

Examples: Standard SANXO-Scope DUAL version and the XY-table A2.



Standard SANXO-Scope HD U4 plus the optional tunable lens and XY-table A2



- ← Camera
- ← Tunable lens
- ← TAMRON 50mm
- ← Illumination

- ← XY-table A2

XY-table A2

Optional monitor stand (MS)

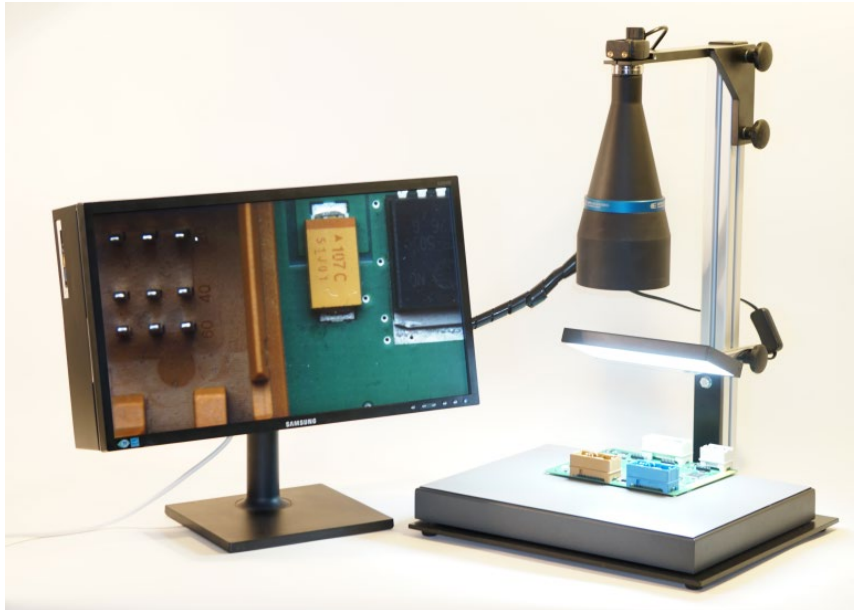


Optional monitor stand: The monitor + PC unit can be used with the optional monitor stand. In this case the monitor is not attached to the aluminum rod. The monitor can be placed next to the camera stand. If you place an order and you want to use this setup use “**MS**” (monitor stand) after the setup name like: SANXO-Scope HD U4 **MS**. The MS option is free of charge when you place the order for the SANXO-Scope HD.

The monitor stand allows rotating the monitor around Z axis, can be tilted and can be moved up and down as the following pictures shows.



Optional C mount lenses



This picture shows the SANXO-Scope HD U4 MS featured with Telecentric lens 1280. The advantage of this setup is the big depth of field plus there is no perspective distortion, so this setup is ideal for measurements. Ask for available telecentric lenses.

The SANXO-Scope HD supports standard C mount lenses (telecentric, macro or zoom lens etc.), so the user easily can change between lenses and get new optical setup in order to support other upcoming need. If you have special need do not hesitate to contact our specialist to get more information.

SANXO-Scope LAB setup



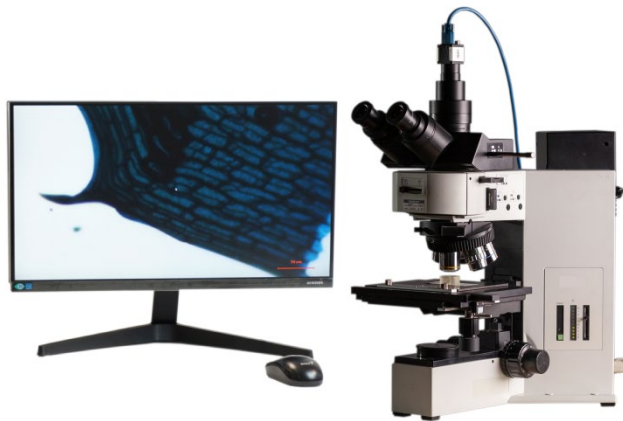
This setup is a complete stand alone life science microscope including the integrated PC + Full HD monitor.

SANXO-Scope EDU SYSTEM setup



This setup is a complete stand alone reflected light microscope including the integrated PC + Full HD monitor.

SANXO Digital converter kit for analogue microscopes SYSTEM Setup



The digital converter kit upgrades the traditional optical microscope to be a fully functional digital microscope with integrated PC + Full HD monitor.

8. MODELS AND PRICES

New Models

Models	SANXO-Scope HD U10 (new)	SANXO-Scope HD U7 (new)
Item no:	Lens 25: SC-10-01-25 Lens 50: SC-10-01-50 Lens 75: SC-10-01-75*	Lens 25: SC-09-01-25 Lens 50: SC-09-01-50 Lens 75: SC-09-01-75*
Item no: Including Monitor Stand	Lens 25: SC-10-01-25-MS Lens 50: SC-10-01-50-MS Lens 75: SC-10-01-75-MS*	Lens 25: SC-09-01-25-MS Lens 50: SC-09-01-50-MS Lens 75: SC-09-01-75-MS*
Camera	SONY 1" 20.5 MPixel IDS color camera	IDS Imaging 6.3 MPixel color camera digital zoom
Lens	Megapixel TAMRON 75, 50 or 25mm	Megapixel TAMRON 75, 50 or 25mm
Monitor	Full HD resolution 22"	Full HD resolution 22"
Camera stand	Adjustable and robust camera stand	Adjustable and robust camera stand
PC	INTEL NUC i7® 8GB RAM, 240GB SSD	INTEL NUC i5® 8GB RAM, 120GB SSD
Autofocus	Ask tech support	optional/supported
3D imaging	Ask tech support	optional/supported
Light source	SAN-20W DIM white illumination (700mA) 210x98x25mm	SAN-20W DIM white illumination (700mA) 210x98x25mm
Framerate	c.a.30-70 FPS	35-70 FPS
Price	5200 EUR	4000 EUR

Models	SANXO-Scope HD U4 Express	SANXO-Scope HD U4	SANXO-Scope HD U3
Item no:	Lens 25: SC-02-01-25 Lens 50: SC-02-01-50 Lens 75: SC-02-01-75*	Lens 25: SC-03-01-25 Lens 50: SC-03-01-50 Lens 75: SC-03-01-75*	Lens 25: SC-04-01-25 Lens 50: SC-04-01-50 Lens 75: SC-04-01-75*
Item no: Including Monitor Stand	Lens 25: SC-02-01-25-MS Lens 50: SC-02-01-50-MS Lens 75: SC-02-01-75-MS*	Lens 25: SC-03-01-25-MS Lens 50: SC-03-01-50-MS Lens 75: SC-03-01-75-MS*	Lens 25: SC-04-01-25-MS Lens 50: SC-04-01-50-MS Lens 75: SC-04-01-75-MS*
Camera	IDS Imaging 18 MPixel color camera	IDS Imaging 18 MPixel color camera	IDS Imaging 5 MPixel color camera
Lens	Megapixel TAMRON 75, 50 or 25mm	Megapixel TAMRON 75, 50 or 25mm	Megapixel TAMRON 75, 50 or 25mm
Monitor	Full HD resolution 22"	Full HD resolution 22"	Full HD resolution 22"
Camera stand	Adjustable and robust camera stand	Adjustable and robust camera stand	Adjustable and robust camera stand
PC	INTEL NUC i7® 8GB RAM, 240GB SSD	INTEL NUC i5® 8GB RAM, 120GB SSD	INTEL NUC i3® 4GB RAM, 120GB SSD
Autofocus	optional/supported	optional/supported	Not available
3D imaging	optional/supported	optional/supported	Not available
Light source	SAN-20W DIM white illumination (700mA) 210x98x25mm	SAN-20W DIM white illumination (700mA) 210x98x25mm	SAN-20W white illumination (700mA) 210x98x25mm
Framerate	c.a.35-70 FPS	35-62 FPS	38-62 FPS
Price	4700 EUR	4100 EUR	2900 EUR

*Ordering with 75mm lens has 60 EUR extra cost

Models	SANXO-Scope HD U5 Hyper Fastest autofocus	SANXO-Scope DUAL 18	SANXO-Scope DUAL 5
Item no:	Lens 25: SC-05-01-25 Lens 50: SC-05-01-50 Lens 75: SC-05-01-75*	SC-07-01-50	SC-07-02-50
Item no: Including Monitor Stand	Lens 25: SC-05-01-25-MS Lens 50: SC-05-01-50-MS Lens 75: SC-05-01-75-MS*		
Camera	IDS Imaging 2.3 MPixel color camera Global shutter Limited digital zoom	2 pcs IDS Imaging 18 MPixel color cameras	2 pcs IDS Imaging 5 MPixel color cameras
Lens	Megapixel TAMRON 75, 50 or 25mm	Megapixel TAMRON 50 mm	Megapixel TAMRON 50 mm
Monitor	Full HD resolution 22"	Full HD resolution 22"	Full HD resolution 22"
Camera stand	Adjustable and robust camera stand	Adjustable and robust camera stand	Adjustable and robust camera stand
PC	INTEL NUC i7® 8GB RAM, 256GB SSD	INTEL NUC i5® 8GB RAM, 120GB SSD	INTEL NUC i5® 8GB RAM, 120GB SSD
Autofocus	optional/supported	Not available	Not available
3D imaging	optional/supported	Not available	Not available
Light source	SAN-20W DIM-REF white illumination (700mA) 210x98x25mm	SAN-40W white Dimmable LED Light source	SAN-40W white Dimmable LED Light source
Framerate	c.a.100-150 FPS	30-60 FPS	30-60 FPS
Price	4800 EUR	6500 EUR	5200 EUR

* Ordering with 75mm lens has 60 EUR extra cost

Models	SANXO-Scope LAB 5	SANXO-Scope LAB 21
Item no:	SC-11-01-12	SC-11-02-12
Camera	IDS Imaging 5 MPixel color camera 2 X digital zoom	IDS Imaging 20,5 MPixel color camera 4,2 X digital zoom
Lens	Megapixel TAMRON	Megapixel TAMRON
Monitor	Full HD resolution 22"	Full HD resolution 22"
Camera stand	Adjustable and robust camera stand	Adjustable and robust camera stand
PC	INTEL NUC i5® 8GB RAM, 120GB SSD	INTEL NUC i5® 8GB RAM, 120GB SSD
Focus	Manual focus	Manual focus
Magnification	c.a:200x-600x	c.a: 150x-650x
Light source	Dimmable back light (optional ring light available)	Dimmable back light (optional ring light available)
Framerate	38-62 FPS	c.a.30-70 FPS
Price	3680 EUR	3950 EUR

Models	SANXO-Scope EDU	SANXO-Scope EDU SYSTEM
Item no:	SC-13-01-8-100	SC-13-02-8-100
Camera	IDS Imaging 5 MPixel color camera 2 X digital zoom	IDS Imaging 5 MPixel color camera 2 X digital zoom
Lens	Zoom lens 8x-100x	Zoom lens 8x-100x
Monitor	not included	Full HD resolution 22"
Camera stand	Adjustable and robust camera stand	Adjustable and robust camera stand
PC	Not included. To be connected to the user's PC	INTEL NUC i5® 8GB RAM, 120GB SSD
Focus	Manual focus (optional autofocus)	Manual focus (optional autofocus)
Light source	Dimmable LED ring light white	Dimmable LED ring light white
Framerate	38-62 FPS	c.a.30-70 FPS
Price	1590 EUR	2590 EUR

Models	SANXO converter kit for analogue microscopes	SANXO converter kit for analogue microscopes SYSTEM
Item no:	SC-12-01-00	SC-12-02-00
Camera	IDS Imaging 2,3 MPixel color camera	IDS Imaging 2,3 MPixel color camera
Lens	existing optical microscope	existing optical microscope
Monitor	not included	Full HD resolution 22"
Camera stand	on the existing microscope	on the existing microscope
PC	Not included. To be connected to the user's PC	INTEL NUC i5® 8GB RAM, 120GB SSD
Focus	Manual focus	Manual focus
Light source	-	-
Framerate	55 FPS	55 FPS
Price	990 EUR	2350 EUR

9. OPTIONAL ACCESSORIES

1. Tunable 1030 (autofocus) lens (item:SC-01-10-01)

By using the electrical tunable lens, the SANXO-Scope HD gets extra features. The software recognizes the new lens and automatically provides additional functionalities as: Area Focusing, and Continuous Focusing, Image Stacking and 3D Imaging. The package contains:- 1030 tunable lens, lens driver module, cable (1m) between lens and driver, USB extension cable between the PC and the driver module.

Price: 950 EUR



2. Tunable 1640 (autofocus) lens (item:SC-01-10-02)

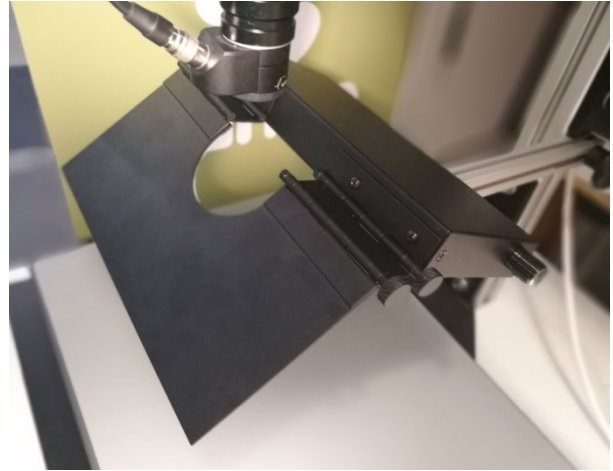
By using the new tunable lens the usable range is about 1.5 bigger than the 1030. Also this lens lets more light in and it can be used with bigger sensor equipped cameras. The package contains:- 1640 tunable lens, lens driver module, cable (1m) between lens and driver, USB extension cable between the PC and the driver module.

Price: 1550 EUR



3. SAN-20W DIM-REF***

The new SAN-20W white light source provides many outstanding features for the SANXO-Scope HD digital microscope family. Its enclosure is made of powder coated aluminum. There are 170 power LEDs providing very strong and evenly distributed light for the digital microscope at 6500K. The light source is dimmable with the knob on the right side of the enclosure. Its ergonomic design enables the user to adjust the angle of the light source. It is featured with extra movable side which has a reflective surface. Using this reflective plate the illumination will be more even and the user can reduce the shadows, so eventually the camera image will be better.



Versions:

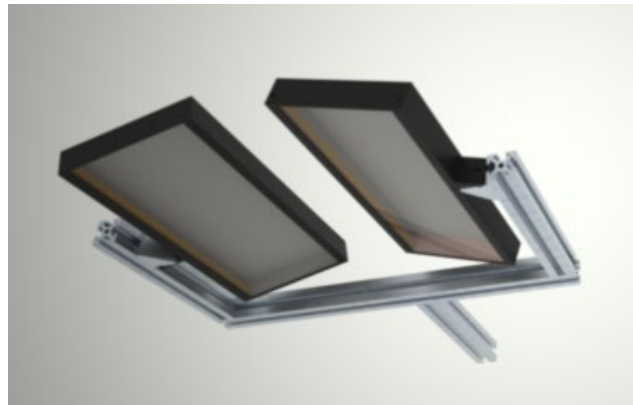
- a, SAN-20W (item:SC-01-01-01) (without adjustable reflection plate, it is non-dimmable)
Price: 400 EUR
- b, SAN-20W **DIM** (item:SC-01-01-02) (dimmable, without adjustable reflection plate)
Price: 500 EUR
- c, SAN-20W **DIM REF** (item:SC-01-01-03) (dimmable, with adjustable reflection plate)
Price: 580 EUR

4. Dual Light Source***

The Dual Light Source consists of 2 pcs of SAN-20W white illumination 209x98x20mm light sources and a mounting frame.

Versions:

Dimmable (item:SC-01-02-02)



Price: 680 EUR

5. XY-table A2: *** (With lock or without lock)

The dimensions of the XY-table is 400x305x42mm. The XY table is mounted to the camera base. The XY table has a very smooth and precise moving using linear ball bearings. The XY-table comes with a 2mm ESD rubber mat cover. Lockable XY-table version comes with an electromagnetic lock. Small button on the right hand side.



XY-t



By default the lock is on. When the user pushes the small button gently the XY table release the lock and the user can move it smoothly.

Versions:

XY table A2 without lock (item:SC-01-30-01)

Price: 460 EUR

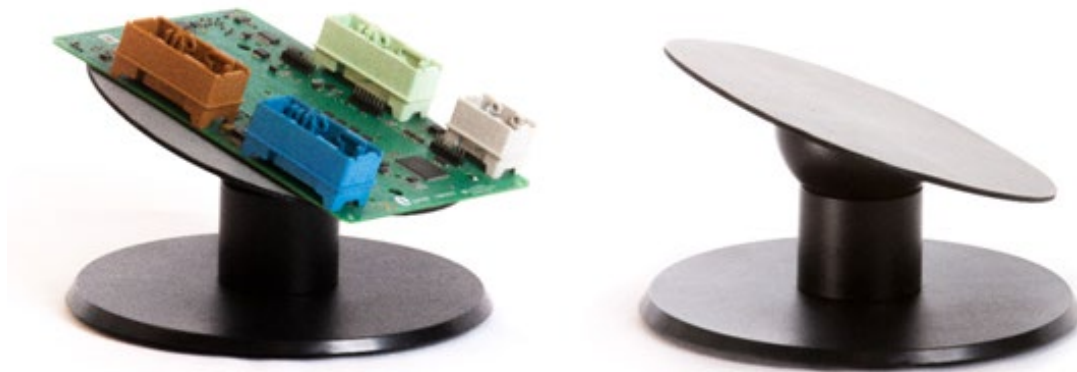
XY table A2 with lock (item:SC-01-30-02)

Price: 600 EUR

6. Tilting table, D2: *** (item:SC-01-32-01)

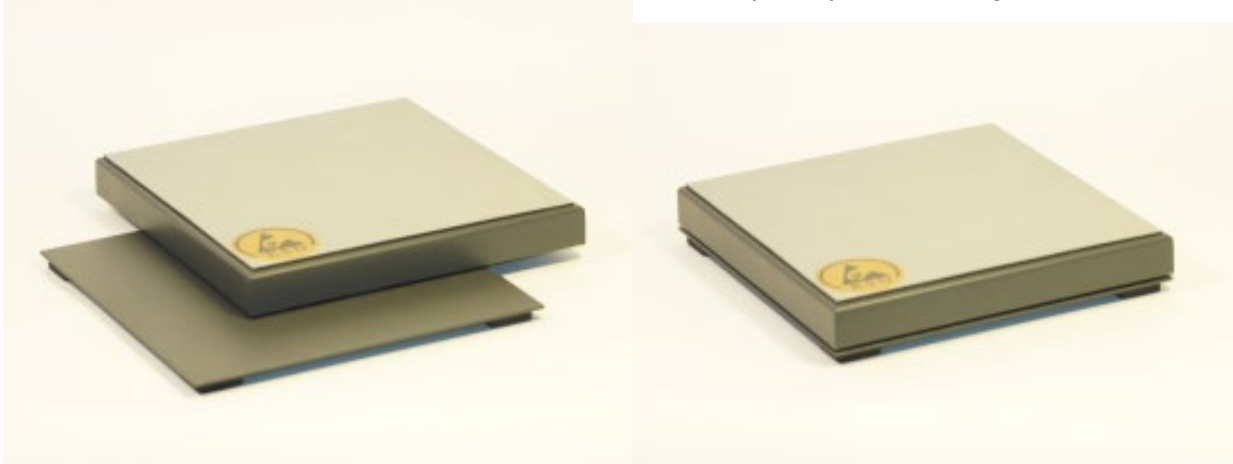
The tilting table can be placed on any iron based surface. It has a built in magnet which holds the tilting base to the metal surface. The tilting table comes with a 2mm ESD rubber mat cover. The diameter is 200mm.

Price: 460 EUR



7. XY-table A3: *** (item:SC-01-31-01)

The dimensions of the XY-table A3 is 204x204x30mm. DryLin system from Iigus GmbH.



Price: 330 EUR

8. Extra lens:

The TAMRON 25, 50, 75mm megapixel lenses or VST 75mm megapixel lens are optional lenses.



Versions:

TAMRON 25 (item:SC-01-11-01)

TAMRON 50 (item:SC-01-11-02)

TAMRON 75 (item:SC-01-11-03)

Price: 300 EUR

Price: 300 EUR

Price: 360 EUR

9. Ring light (FR): flat diffuse light source

Outer diameter: 80mm , 110mm , 220mm
Inner diameter: 20 mm , 33 mm , 70mm



Versions:

80x20x16mm (item:SC-01-03-01) **Price: 590 EUR**

110x33x16mm (item:SC-01-03-02) **Price: 800 EUR**

220x70x16mm (item:SC-01-03-03) **Price: 1350 EUR**

10. Ring light (KR): angled diffuse light source



Outer diameter: 74mm , 125mm
Inner diameter: 20 mm , 60mm

Versions:

74x20x18mm (item:SC-01-04-01) **Price: 550 EUR**
125x60x18mm (item:SC-01-04-02) **Price: 880 EUR**

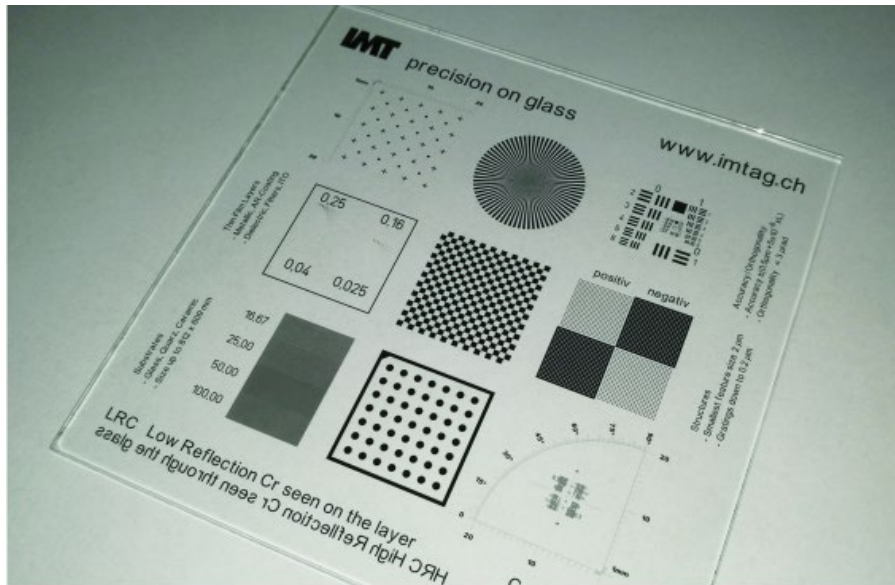
11. Telecentric lens 1280: (item:SC-01-13-01)



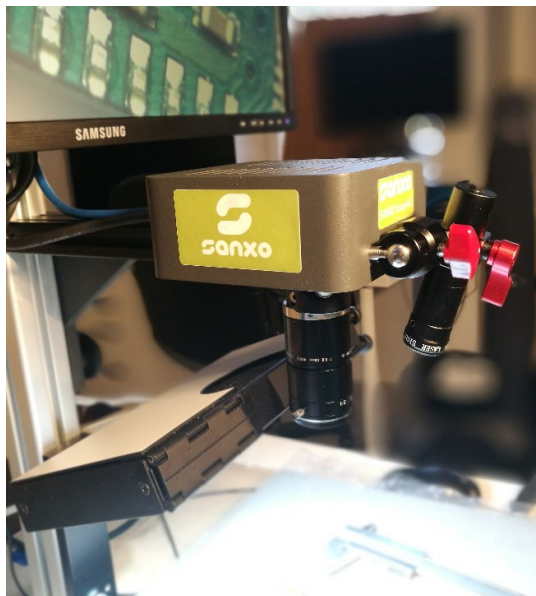
The Telecentric lenses support precise measurements in 2D. The lens dimensions are: 271mm x126 mm. The field of view is: 80 x 60 mm @1/2" sensor (The field of view varies slightly with the camera model). **Price: 2300 EUR**

12. Calibration board: IMT precision calibration glass (item:SC-01-50-01)
Printed resolution is 0.015 μm

Price: 98 EUR



13. Laser pointer (item:SC-01-51-01)



The laser pointer is a 1mWatt 3rd class laser device. The laser pointer has an adjustable clamp which enables the user to adjust the proper angle. The switch button of the laser pointer is located on the top of the device so it is very easy to switch on and off.

Caution: If the laser beam is pointed to a reflective surface the user of the microscope should wear a protection glasses.

Price:165 EUR

14. Extension tube set (item:SC-01-52-01)

By using the extension tube larger magnification can be achieved with the same camera and optics. It enables the main lens to get closer to the object.

The set consists of the following 5 rings/tubes: 0.5, 1, 5, 10, 20 mm

Price:55 EUR

AFTER SALES SUPPORT:

We provide support for the test systems with trainings and on-line support.

FREE SOFTWARE UPGRADE

At SANXO we are continuously improving the SANXO-Scope HD SW application. We provide free upgrade of the software when new features and new release of the software take place.

Calibration card:

We provide 3 calibration cards with all SANXO-Scope HD models. Each calibration card has 4 calibration grids for different optical setups.

*** These products are produced by SANXO-Systems Ltd.

11. COMMERCIAL CONDITIONS

Delivery time	26 working days after received order
Delivery terms	EXW, Budapest, Hungary (Incoterms 2000)
Prices	All prices are in Euro (EUR), VAT is excluded
Payment	pre-payment
Factory Acceptance Test (FAT)	FAT will be done at SANXO-Systems Ltd.

We hope our quotation will meet your requirements and look forward to your prompt response. In your order, please refer to our quotation number.

Yours Sincerely,
SANXO Team

SANXO-Systems
Finnish-Hungarian Measurement and Automation Ltd.

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Mobil: +36 30 9767539



12. GENERAL COMMERCIAL CONDITIONS

Validity	Quotation is valid for 1 month from the date.
Interest of delayed payments	8% (360 bank days)
Other terms	If the non-compliance with the time for deliveries or services can be proved to be due to mobilization, war, riot, strike, lockout or other unforeseen events, the period shall be reasonably extended. The above events shall also include any provisions by public authorities, such as the refusal of any official authorization that may be required, transport restrictions and restrictions of energy consumption, but also general lack of raw materials and common supplies.
Cancellation	In the event that the contract is cancelled without default on our part and by mutual agreement, all the cost accumulated by the date of cancellation (receipt of cancellation by us) for services, semi-finished as well as finished products, including cancellation charges shall be invoiced by SANXO-Systems Kft and paid by the Customer.
Liquidated damages	SANXO-Systems Kft shall not assume liability for consequential losses or indirect damages, e.g. for loss of production or loss of profit, in case of delayed delivery or warranty and gross negligence. Penalties are excluded. Further liability beyond that extent is excluded insofar as this is legally permissible.
Recycling 2002/96/EC (WEEE)	We are glad to provide our customers with a take-back service for waste electrical and electronic equipment free of charge. Please note that we will only take back equipment as it has been delivered by SANXO-Systems Kft originally, meaning the customer may not remove or add any parts from/to the equipment. In the case the equipment is not in its original configuration, we reserve the right to invoice the customer the full amount of incurred take-back and recycling cost.
Changes during the delivery	Any changes during the delivery will be handled via mutually agreed Change Management routine.

13. GENERAL WARRANTY CONDITIONS

For all products manufactured and sold by SANXO-Systems Kft, SANXO-Systems Kft provides a warranty of twenty-four **(24) months** (except it is offered and written different) from the date of purchase. If the delivery date changes due to reasons unrelated to SANXO-Systems Kft, the period of warranty still commences on the delivery date agreed. The warranty covers faults in material and faults which are due to the production process. If during the period of warranty it becomes apparent that the Product is faulty due to production process or material, SANXO-Systems Kft agrees to repair or according to its own discretion, replace the faulty Product or a part of a Product free of charge, this not extending the original warranty period. The repair can take place either at the premises of the Customer or at the premises of SANXO-Systems Kft. If the repair is to take place at the premises of the Customer, the Customer is liable to pay the travel costs and other expenses this causes, to the repair personnel of SANXO-Systems Kft. A repair taking place at the premises of SANXO-Systems Kft is conducted free of charge. The sender is liable for the transportation expenses of the Product under repair.

If the repair or replacement of a faulty part does not require specific professional expertise, SANXO-Systems Kft will satisfy its warranty liability by delivering the repaired or new part to the Customer or by providing satisfactory financial compensation for expenses accrued due to the repair or replacement of the part. Faulty parts that have been replaced according to this condition remain the property of SANXO-Systems Kft.

For these conditions to apply, it is required that SANXO-Systems Kft is provided with a detailed written notification of the claimed fault within thirty (30) days of the fault or deficiency being noticed or when it became apparent and the faulty Product or a part of such Product, if required by SANXO-Systems Kft, be sent to SANXO-Systems Kft or a place indicated by SANXO-Systems Kft with the adequate transportation expenses paid in advance, in appropriate packaging, unless SANXO-Systems Kft agrees to inspect and repair or replace the Product on site. If the Customer's claim concerning a fault under warranty proves to be unfounded, the Customer is liable to compensate all expenses incurred to SANXO-Systems Kft as a result of the claim.

The product is repaired within reasonable period of time with regard to the availability of spare parts and repair personnel.

The warranty does not cover faults and deficiencies due to

a) a faulty installation or assembly by the Customer or negligence in maintenance of the Product or maintenance instructions provided by SANXO-Systems Kft, also regarding cases when repairs, installation, assembly or other maintenance work has been conducted by individuals who have not been authorized by

SANXO-Systems Kft or if such parts have been used , which are not manufactured, supplied or approved by SANXO-Systems Kft;

b) misuse or other improper or inappropriate use of the Product, or negligence or error in warehousing, storing or handling of the Product or any part of the Product;

c) wear or accident caused by normal use;

d) changes or amendments to the Product, which have not been authorized by SANXO-Systems Kft;

e) the Customer or a third party.

Under this warranty, SANXO-Systems Kft is not liable for faults, which are due to the materials, plans and instructions supplied by the Customer or other Customer activity. The warranty expires if the Product is moved to another branch without agreement from SANXO-Systems Kft or if it is sold to another company.

This warranty covers and excludes in entirety all other explicit or implicit conditions, warranties and liabilities as well as all other responsibilities and liabilities of SANXO-Systems Kft or a representative of SANXO-Systems Kft relating to any faults or deficiencies that become eminent in the Product or are due to the Product directly or indirectly. SANXO-Systems Kft shall not cover the commercial practicality of the Product or its suitability to a purpose, which is not the one designed for the Product. The liability of SANXO-Systems Kft shall not extend to indirect damages or losses and shall not in any case exceed the list price provided by SANXO-Systems Kft of the Product, to which the warranty claim relates.